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CLAIMS:

What is claimed is:

1. A method, operable in a data processing system having a host, for performing an input/output transaction,
5 comprising:

sending a request message to an adapter; and

performing, under the control of the adapter, a remote
10 direct memory access transfer through a system area network.
2. The method of claim 1, wherein the remote direct memory access includes the adapter's reading memory from the host.
3. The method of claim 1, wherein the remote direct memory access includes the adapter's writing to memory of the host.
- 15 4. The method of claim 1, wherein the request message includes remote direct memory access transfer parameters.
5. The method of claim 4, wherein the remote direct memory access transfer parameters include at least one of a transaction ID, a list of data segments, an identification
20 of a storage device, and an address on a storage device.
6. The method of claim 1, further comprising:

receiving a confirmatory response from the adapter.
7. A method, operable in a data processing system having
25 an adapter, for performing an input/output transaction,

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comprising:

receiving a request message from a host; and

- 5 performing a remote direct memory access transfer with the host through a system area network.

8. The method of claim 7, wherein the remote direct memory access includes reading memory from the host.

9. The method of claim 8, further comprising:

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writing data read from the memory to a storage device.

10. The method of claim 7, wherein the remote direct memory access includes writing to memory of the host.

11. The method of claim 10, further comprising:

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reading from a storage device data to be written to the memory.

12. The method of claim 7, wherein the request message includes remote direct memory access transfer parameters.

- 20 13. The method of claim 12, wherein the remote direct memory access transfer parameters include at least one of a transaction ID, a list of data segments, an identification of a storage device, and an address on a storage device.

14. The method of claim 7, further comprising:

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sending a confirmatory response to the host.

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15. A computer program product in a computer readable medium for execution in a data processing system having a host, comprising instructions for:

5 sending a request message to an adapter; and

performing, under the control of the adapter, a remote direct memory access transfer through a system area network.

16. The computer program product of claim 15, wherein the
10 remote direct memory access includes the adapter's reading memory from the host.

17. The computer program product of claim 15, wherein the remote direct memory access includes the adapter's writing to memory of the host.

15 18. The computer program product of claim 15, wherein the request message includes remote direct memory access transfer parameters.

19. The computer program product of claim 18, wherein the remote direct memory access transfer parameters include at
20 least one of a transaction ID, a list of data segments, an identification of a storage device, and an address on a storage device.

20. The computer program product of claim 15, comprising additional instructions for:

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receiving a confirmatory response from the adapter.

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21. A computer program product in a computer readable medium for execution in a data processing system having an adapter, comprising:

5 receiving a request message from a host; and

performing a remote direct memory access transfer with the host through a system area network.

22. The computer program product of claim 21, wherein the
10 remote direct memory access includes reading memory from the host.

23. The computer program product of claim 22, comprising additional instructions for:

15 writing data read from the memory to a storage device.

24. The computer program product of claim 21, wherein the remote direct memory access includes writing to memory of the host.

25. The computer program product of claim 24, comprising
20 additional instructions for:

reading from a storage device data to be written to the memory.

26. The computer program product of claim 21, wherein the
25 request message includes remote direct memory access transfer parameters.

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27. The computer program product of claim 26, wherein the remote direct memory access transfer parameters include at least one of a transaction ID, a list of data segments, an identification of a storage device, and an address on a
5 storage device.

28. The computer program product of claim 21, further comprising:

sending a confirmatory response to the host.

10 29. A data processing system comprising:

a bus system;

a processing unit connected to the bus system, wherein the
15 processing unit includes at least one processor;

a memory;

a host channel adapter in connection with a system area
20 network; and

a set of instructions in the memory,

wherein the processing unit executes the set of instructions
25 to perform the acts of:

sending a request message, using the host channel adapter, to an input/output device adapter; and

30 performing, under the control of the input/output device adapter, a remote direct memory access transfer through a

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system area network.

30. The data processing system of claim 29, wherein the remote direct memory access includes the input/output device adapter's reading the memory.

5 31. The data processing system of claim 29, wherein the remote direct memory access includes the input/output device adapter's writing to the memory.

10 32. The data processing system of claim 29, wherein the request message includes remote direct memory access transfer parameters.

15 33. The data processing system of claim 32, wherein the remote direct memory access transfer parameters include at least one of a transaction ID, a list of data segments, an identification of a storage device, and an address on a storage device.

34. The data processing system of claim 29, wherein the processing unit performs the additional act of:

20 receiving a confirmatory response from the input/output device adapter.

35. A data processing system comprising:

a bus system;

25 a processing unit connected to the bus system, wherein the processing unit includes at least one processor;

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a first memory;

a target channel adapter in connection with a system area network; and

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a set of instructions in the first memory,

wherein the processing unit executes the set of instructions to perform the acts of:

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receiving a request message from a host with the target channel adapter; and

performing a remote direct memory access transfer with the

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host through the system area network.

36. The data processing system of claim 35, wherein the remote direct memory access includes reading a second memory from the host.

37. The data processing system of claim 36, wherein the processing unit performs the additional act of:

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writing data read from the second memory to a storage device.

38. The data processing system of claim 35, wherein the remote direct memory access includes writing to a second memory of the host.

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39. The data processing system of claim 38, wherein the processing unit performs the additional act of:

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reading from a storage device data to be written to the second memory.

40. The data processing system of claim 35, wherein the request message includes remote direct memory access
5 transfer parameters.

41. The data processing system of claim 40, wherein the remote direct memory access transfer parameters include at least one of a transaction ID, a list of data segments, an identification of a storage device, and an address on a
10 storage device.

42. The data processing system of claim 35, wherein the processing unit performs the additional act of:

sending a confirmatory response to the host.